C1850-5
10/26/87

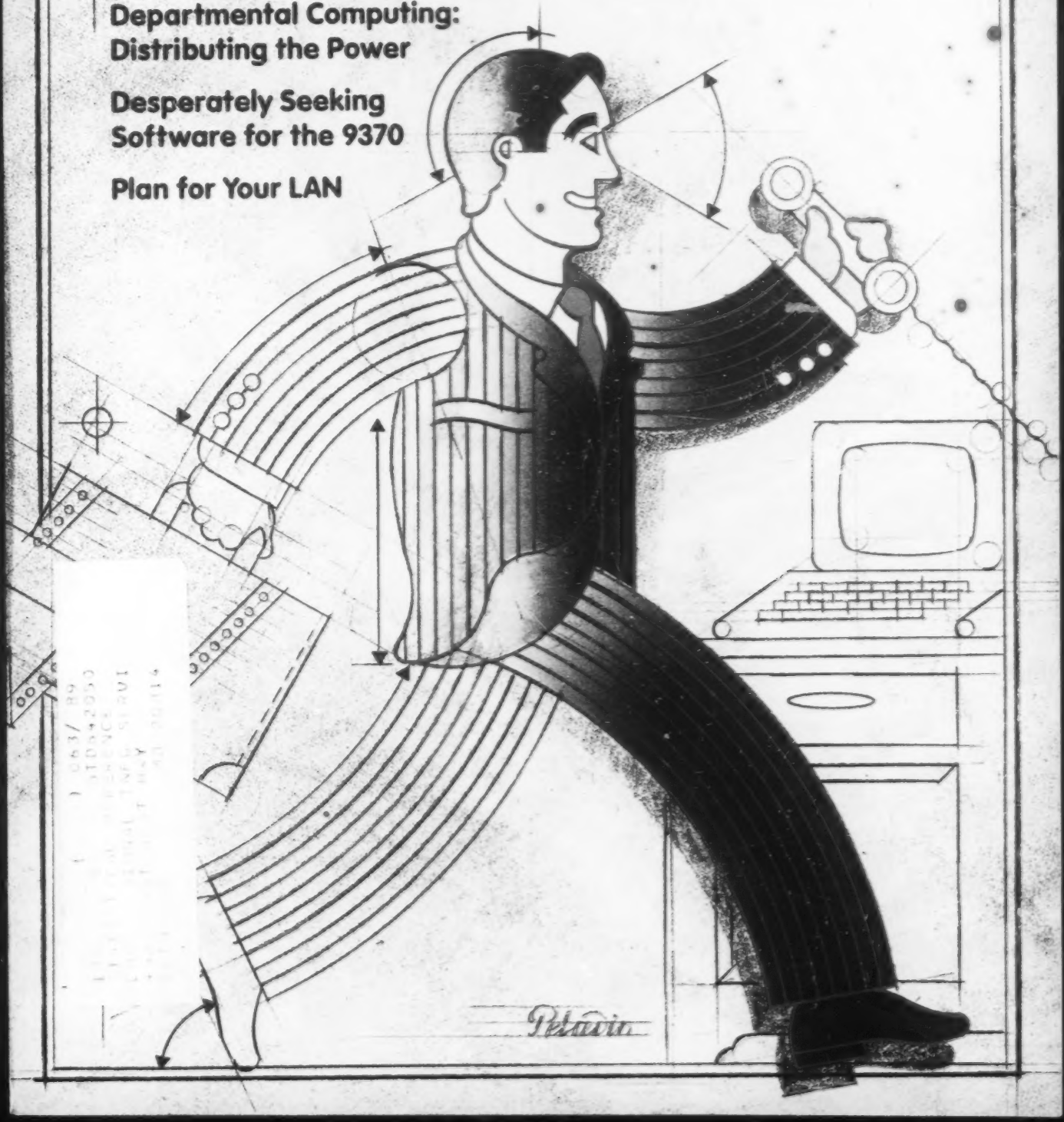
DATAMATION
OCTOBER 15, 1987
A CAHNERS PUBLICATION

A Blueprint for the New IS Pro

Departmental Computing: Distributing the Power

Desperately Seeking Software for the 9370

Plan for Your LAN



DATAMAT

NEWS

9 **Look Ahead**
A startup is developing a three-chip set to run FDDI at 100Mbps and up.

17 **Mainframes**
Jeff Moad talks to Sperry 1100 users who are hungry for MIPS and wondering if Unisys can deliver.

19 **Communications**
LAN protocol analyzers are helping users operate their networks more efficiently. Susan Kerr reports.

22 **Languages**
Willie Schatz finds IBM, DEC, and Unisys in opposition to the proposed new FORTRAN standard.

28 **Microcomputers**
User commitment to PS/2 is tentative, due largely to the 3½-inch disk format, writes Robert Francis.

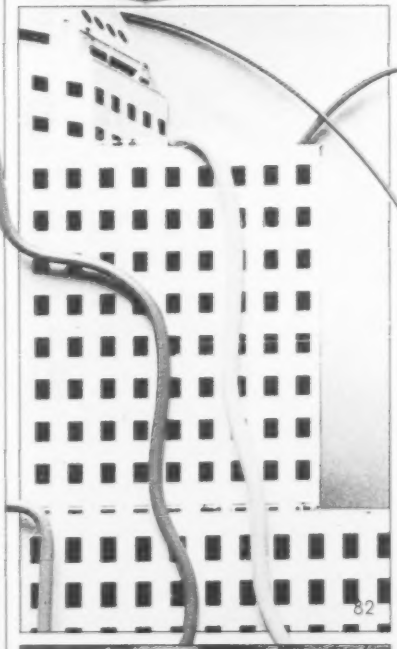
32 **Strategies**
Intel and TI provide two examples of chip companies looking for alternative sources of revenue, reports Ralph Emmett Carlyle.

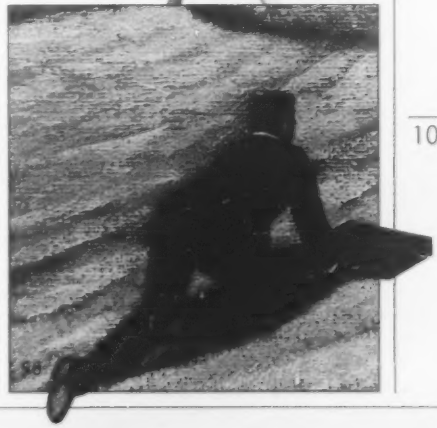
46 **Vertical Markets**
Robert Poe talks to an IS exec in Singapore who finds the Asian computing industry awash in blue—Big Blue.

50 **Benchmarks**
Thomas J. Lawton, editor of *Computer Services Report*, has died.

53 **Behind the News**
A government plan to modernize the air traffic control system's computers, software, and communications systems was meant to aid the overtaxed control system, but Gary McWilliams reports that the scheme is dogged by upgrade delays, rising costs, and miscalculations.

FEATURES





64 **A Blueprint for the New IS Professional**
BY CURT HARTOG AND ROBERT A. ROUSE
The drive to IS success runs over a new road these days, say Fortune 1000 computing pros. Adaptability and solid business skills are keys in a rapidly decentralizing environment.

72 **Managing Your IS Pros**
BY FREDERIC G. WITHINGTON
What chance do IS managers of small- to medium-sized shops have to keep valuable staff in the face of larger shops' lures? A good one, if the solutions to common problems described here are implemented.

82 **Departmental Computing: Distributing the Power**
BY ALAN SEWELL
Decentralizing IS has many benefits. The shift to local control hinges on careful management, uniform policies for all systems, and proper communication.

98 **Desperately Seeking Software for the IBM 9370**
BY MARY JO FOLEY
IBM wants 9370s to be at home in small- to medium-sized shops, but before those users will get into the groove, IBM must improve applications software.

109 **Plan for Your LAN**
BY MARTIN PYYKKONEN
The first of a two-part article lists 10 steps to help in the selection of a local area network. Weighing user needs versus organizational goals is one key to maximizing the LAN's benefits.

ION

REAL TIME

4 **Letters**
A training organization praises the Pick OS; IBM's NetView concept is viewed as an idea whose time has finally come.

115 **Hardware**
HP expands its microcomputer line with new personal computers, terminals, and portables.

123 **Software**
Bestinfo takes its desktop publishing system to the high end; PSDI initiates user-based pricing.

131 **People**
The 32-year-old cofounder of Bridge Communications, Judith Estrin, faces new challenges as Bridge merges with 3Com.

132 **Books**
The Information Weapon by William R. Synnott, and *The Information Edge* by N. Dean Meyer and Mary E. Boone are reviewed by former Johnson & Johnson vp James Collins.

137 **Readers' Forum**
Software engineer Robert C. Rogers urges team tactics for software development.

140 **Calendar**
Don't miss COMDEX/Fall in Las Vegas this November.

149 **1986 Subject Index**
A listing, by topic, of all the articles and news stories that appeared in DATAMATION in 1986, from "Academia" to "Worldwide Data Processing Industry."

171 **Advertisers' Index**

171 **The Marketplace**

Cover Illustration by Daniel Pelavin

OCTOBER 15, 1987
VOLUME 33
NUMBER 20
THIS ISSUE: 188,400 COPIES

1987 JESSE H. NEAL AWARD

Editorial

Justice Is Served But Not So Competition

Customers of information technology and services have been dealt both a blow and a wild card in recent weeks—each in the name of competition. The blow came in the form of a U.S. district court ruling that limits the businesses regional Bell operating companies can enter. The one-eyed jack arrived from a more unlikely source—two arbitrators hired by IBM and Fujitsu to resolve their software copyright battle.

Why the BOCs can't manufacture equipment or pursue any other activity that free U.S. enterprises can is beyond us. In ruling last month that they couldn't offer long distance service and the like, Judge Harold H. Greene seemed to say he likes things as they were before the AT&T breakup: he's content to let Ameritech and the other BOCs be telephone companies—no more, but, unfortunately for their customers, a lot less.

The decision was hailed by several industry associations. For example, the Computer and Business Equipment Manufacturers Association, in Washington, D.C., says the decision reflects "a clear understanding of the need to preserve telecommunications competition." We think it merely protects some competitors. Perhaps such associations would do well to travel beyond the Potomac's lobbyist-lined banks to see how the rest of the world defines competition.

Now in the process of redefinition is competition in the mainframe arena, thanks largely to the rules and procedures (as well as penalty payments) ironed out last month by which Fujitsu and IBM can exchange data on mainframe operating systems. At first glance, the ruling seems to help users by enabling mainframe competitors such as Fujitsu to have access to IBM's designs. It's unclear, however, whether the security facilities where such data are to be exchanged are, in fact, feasible, or whether other IBM competitors will enjoy similar access.

These developments deserve your continued attention. If you, as customer of computer systems, want to ensure that you're getting the best possible solutions to your business problems at the best price, you ought to press for legislation or judicial action that will free the BOCs to serve you as best they can. Similarly, if you want to reap the full benefits of the mainframe competition implied in the arbitrators' ruling, you should see that the mechanisms set up for IBM and Fujitsu to exchange information are neither cumbersome nor closed to other vendors.

Tim Mead

TIM MEAD
EDITOR-IN-CHIEF

DATAMATION

Editor-in-Chief Tim Mead
Senior Editor Linda Runyan
Managing Editor Parker Hodges
Senior Writer Ralph E. Carlyle
News Editor David R. Brousell
International Editor Paul Tate
Copy Chief Eric Brand
New Products Editor Theresa Barry
Associate News Editor Karen Gullo
Copy Editors Steven Korn, John Quain
Assistant Editor Mary Kathleen Flynn
Editorial Assistant Karen J. Scher
Editorial Secretary Suzanne Jones

Bureau Managers
Boston Gary McWilliams
Dallas Robert Francis
Los Angeles Tom McCusker
San Francisco Jeff Moad, Susan Kerr
Tokyo Robert Poe
Washington Willie Schatz

Editorial Assistant, Europe Lauren Murphy
Technology Editor, Europe Fred Lamond
Foreign Correspondents James Etheridge, Paris; Janette Martin, Milan

Art Director Ro[illegible] L. Lascaro
Assistant Art Dire[illegible] Doreen Austria
Production Editor Susan M. Rasco
Art/Production Assistant Hernalee W[illegible]

Contributing Editors Joseph Kelly, Laton McCartney, Hesh Wiener
Advisory Board Lowell Amdahl, Philip H. Dorn, Joseph Ferreira, Bruce W. Hasenyager, David Hebditch, John Imlay, Irene Nesbit, Angeline Pantages, Robert L. Patrick, Malcolm Peltu, Russell Pipe, Carl Reynolds, F.G. Withington

Publisher James M. Morris
Associate Publisher William Segallis
Promotion Manager Stacy Aaron
Production Manager Dollie Viebig
Director of Research Mary Connors
Director of Production Robert Elder
Director of Art Department Barrie Stern
Circulation Manager Ruben Natal

EDITORIAL OFFICES
Headquarters: 249 W. 17 St., New York, NY 10011, (212) 645-0067; telex 429073. **New England:** 199 Wells Ave., Newton, MA 02159, (617) 964-3730; **Washington, D.C.:** 4451 Albemarle St. NW, Washington, DC 20016, (202) 966-7700; **Central:** 9330 LBJ Freeway, Suite 1060, Dallas, TX 75243, (214) 644-3683; **Western:** 12233 W. Olympic, Los Angeles, CA 90064, (213) 826-5818; 2680 Bayshore Frontage Rd., Suite 401, Mountain View, CA 94043, (415) 965-8222. **International:** 27 Paul St., London EC2A 4JU, England, (44-1) 628-7030, telex 914911; 3-46-10 Sekimachi-Kita, Nerima-ku, Tokyo 177, Japan, (81-3) 929-3239.

DATAMATION (ISSN 0011-6963) Magazine is issued twice monthly on the 1st and 15th of every month by The Cahners Publishing Company, A Division of Reed Publishing USA, 275 Washington St., Newton, MA 02158-1630. William M. Platt, President; Terrence M. McDermott, Executive Vice President; Frank J. Sibley, Group Vice President; Jerry D. Neth, Vice President/Publishing Operations; J.J. Walsh, Financial Vice President/Magazine Division; Thomas J. Dellamaria, Vice President/Production and Manufacturing. Editorial offices, advertising and subscription departments, 249 W. 17 St., New York, NY 10011. Published at Woodstock, IL. Annual subscription rates: U.S. and possessions: $55; Canada: $75; Japan, Australia, New Zealand: $145 air freight; Europe: $130 air freight, $235 air mail. All other countries: $130 surface, $235 air mail. Reduced rate for qualified U.S. students, public and school libraries: $40. Single copy: $3 in U.S. Sole agent for all subscriptions outside U.S. and Canada is J.B. Tratsart Ltd., 154 A Greenford Rd., Harrow, Middlesex HA13QT, England, (01) 422-8295 or 422-2456. No subscription agency is authorized by us to solicit or take orders for subscriptions. Second-class postage paid at Denver, CO 80206 and at additional mailing office. DATAMATION copyright 1987 by Reed Publishing USA; Saul Goldweitz, Chairman; Ronald G. Segel, President and Chief Executive Officer; Robert L. Krakoff, Executive Vice President. All rights reserved. DATAMATION is a registered trademark of Cahners Publishing Co. Reprints of articles are available; contact Frank Pruzina (312) 635-8800. Microfilm copies of DATAMATION may be obtained from University Microfilms, A Xerox Company, 300 N. Zeeb Rd., Ann Arbor, MI 48106. Printed by Brown Printing Co. POSTMASTER: send address changes to DATAMATION, 44 Cook St., Denver, CO 80206.

ABP ABC BPA

Letters

Secret No Longer

How gratifying to see coverage of the Pick operating system (July 15, p. 40). Edith D. Myers' illuminating article on Pick's performance in the Fortune 1000 market was long overdue.

As a leading training organization, JES & Associates Inc. has seen dozens of major companies using the Pick OS, among them Coca-Cola, Dow Chemical, Kodak, Lockheed, Sunkist, and Texaco.

For years, Pick was known as the "best kept secret" around; no longer. Thank you for letting the cat out of the bag.

JONATHAN E. SISK
JES & Associates Inc.
Irvine, California

Concept and Products

"IBM NetView Enhancements Stir Interest of MIS Shops" (Aug. 1, p. 19), was timely and relevant. It implied that NetView is today a lot of Fluff for the Future. Perhaps, but your perspective about NetView and Cincom's Net/Master is limited. NetView is two things. It is first a concept; second, it is a series of products.

As a concept, NetView is somewhat on target for IBM users. As a series of products, NetView is nothing new. The products that make up NetView are nothing new. Enhanced? Yes. But they are products that date back to the 1970s. Nor is NetView/PC even an IBM original. Avant Garde's Net/Command is merely one example of an implementation of NetView/PC.

Likewise, Cincom's Net/Master, mentioned in your article, fits well within the NetView concept. Rather than a "head-on competitor to NetView," Cincom views Net/Master as simply another "Focal Point" application that supports IBM's NetView concept. It's a cleaner, more productive, and efficient implementation of Netview than other older IBM products.

Nor had Cincom "bowed to IBM" when they announced support of NetView/PC. Rather, Cincom embraced NetView as an opportunity to support LANs and voice networks through a (de facto) standard. The world doesn't need another standard.

While NetView is an idea whose time has (finally) come, products like Net/Master will make it more feasible to implement. They will do this through a modern product set unavailable from IBM. IBM needs that reinforcement.

Competitive? No! Complementary? Yes!

THOM J. VOLLMAR
Marketing Product Manager
Cincom Systems Inc.
Cincinnati

Correction

Errors in the production process led to four photographs being miscaptioned in the Sept. 1 issue. We apologize for the mistakes. Here are the photographs with the correct captions.

Bruce Curry is director in charge, Computer Resources Dept., Peat, Marwick, Main and Co.

p. 17

Tosco Corp.'s Carl Peterson thinks NetView is "a repackaging of the existing products."

p. 107

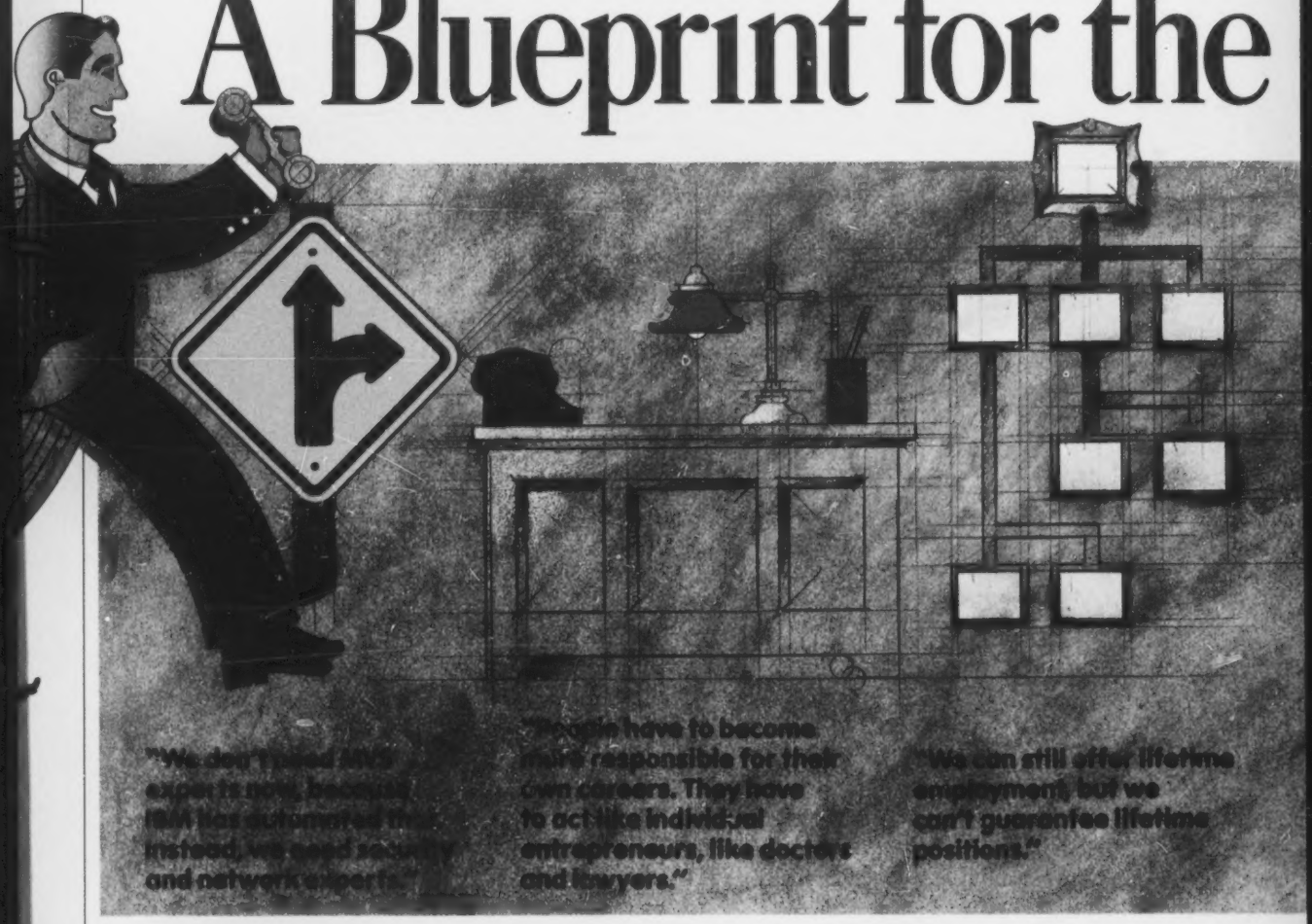
At Samaritan Health Services, Robert McCrory manages a network that carries voice and data among four Phoenix hospitals.

p. 105

A standards engineer at Hewlett-Packard, Trudy Reusser founded ANSI's OSI committee.

p. 100

A Blueprint for the


"We don't need MIS experts now, because IBM has automated me. Instead, we need security and network experts."
"People have to become more responsible for their own careers. They have to act like individual entrepreneurs, like doctors and lawyers."
"We can still offer lifetime employment, but we can't guarantee lifetime positions."

A recent survey of Fortune 1000 executives indicates that as information technology becomes increasingly decentralized, the ability to adapt to new professional roles will displace sheer technical talent as the key to career success for IS practitioners. Adaptability, the ability to direct one's own career, and solid business skills are emerging as critical success factors.

BY CURT HARTOG AND ROBERT A. ROUSE

To maintain their power and dominion, information systems pros are going to have to follow a new blueprint for success. While companies are slashing budgets in an effort to become leaner and meaner, end users are increasingly gaining control of applications and systems software. Corporations are responding by decentralizing their large IS staffs.

At the Center for the Study of Data Processing at Washington University in St. Louis, we conducted a national survey of 50 IS leaders—Fortune 1000 vice presidents, directors, and managers—to find out how they are adapting to the changing, decentralized IS environment (see "Sizing Up Your Staff").

As we talked with IS executives and examined the numbers from the survey, four themes stood out:

- IS jobs are undergoing fundamental changes,
- IS jobs increasingly are at risk,
- IS organizations are becoming more business oriented, and
- the responsibility for IS career development is falling increasingly upon the individual.

As IS professionals struggle to forge new identities in this changing environment (see "Battling for New Roles," Oct. 15, 1986, p. 82), adaptability, the ability to direct one's own career, and solid business skills are emerging as essential assets for survival. The ability to adapt to new professional roles is displacing sheer technical talent as the key to career success for IS executives and staffs.

For many in IS, early retirement and layoffs are sources of concern. For some, recent changes threaten their status as keepers of the technical flame. Unwilling to take seriously the growing dispersion and redefinition of information technology, they hold fast to skills that are becoming obsolete. Increasingly, they are becoming professionals at risk.

Herbert N. McCauley, vp of information management at Harris Corp. in

New IS Professional

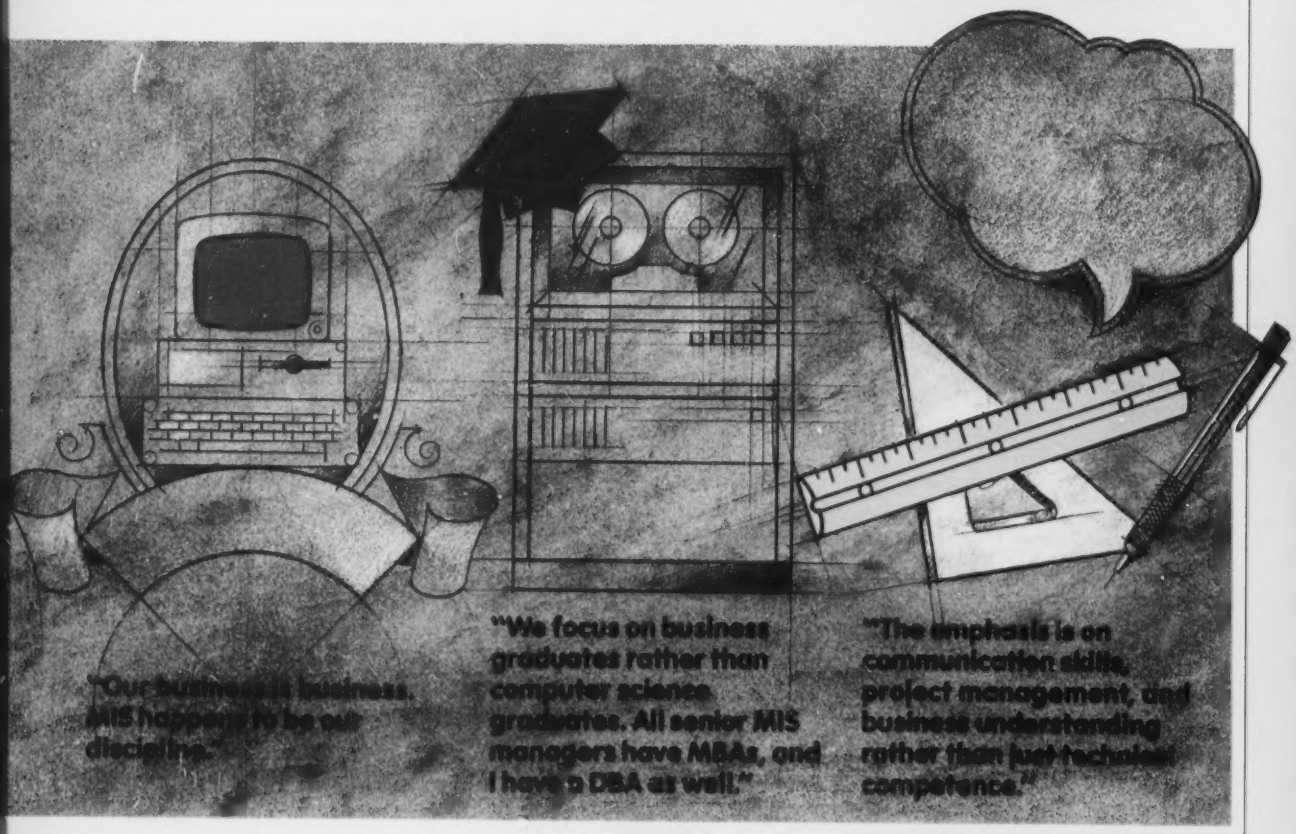

"Our business is business. MIS happens to be our discipline."
"We focus on business graduates rather than computer science graduates. All senior MIS managers have MBAs, and I have a DBA as well."
"The emphasis is on communication skills, project management, and business understanding rather than just technical competence."

Illustration by Daniel Pelavin

Melbourne, Fla., observes growing resistance to change among IS practitioners. McCauley heads up the computer vendor's IS operation, which has an $80 million budget and a staff of 550. He feels that, despite increasing pressure to redefine their jobs, some IS professionals are clinging to technical skills that are no longer relevant. "We don't need MVS experts now," he explains, "because IBM has automated that. Instead, we need security and network experts."

MIS director Gerry Meier manages an IS staff of 55 and a budget of $4 million for Angelica Corp., a St. Louis uniform manufacturer. He believes that "some MIS people are finding it difficult to accept change because they identify themselves with existing technologies or procedures and have trouble letting go when a better product becomes available."

Becoming Outdated

Making the discovery that hard-won knowledge is now obsolete isn't easy for many dpers. Long the gurus of technology, some IS professionals are finding their own technical expertise lacking. Of the directors who responded to our survey, 12% indicated that the skills of their staffs were becoming outdated.

What used to be an IS monopoly is becoming a competitive information services market—both inside and outside the corporation—and customers are finding that they can avoid the IS backlog by shopping elsewhere. Savvy end users, frustrated by MIS procedures and services that they find too slow or too rigid, are taking IS matters into their own hands. Alternatives to slow IS applications development, such as improved off-the-shelf software and computer aided software engineering, are growing increasingly attractive.

A measure of the decentralization that is occurring is the movement of computing people and dollars outside of IS. Significantly, our respondents identified on average only 64% of the dollars spent on computing as direct IS budget items, a rough but startling indicator of change, especially when coupled with the fact that 18% of their IS staffs are working outside the department to support end-user computing. As budgetary control of computing slips away from the IS department, changes in IS roles will become more pronounced.

As technology moves out into the business functions, business concerns become more important to IS. Traditionally, IS priorities have placed the management of information technology first, and the management of people second. Too often, business has been a distant third. But IS executives are rethinking their priorities, as increased competition forces them to recognize the importance of a business orientation (see "Business Focus Is Key to Success," July 15, p. 47).

More than half of our survey respondents indicated that they are or would be requiring professionals who work for them to develop advanced business skills. As Ed Tenholder, vice president of national delivery systems at Blue

A Blueprint for The New IS Professional

Cross and Blue Shield of Missouri, put it, "Our business is health care. MIS happens to be our discipline."

In some firms, the business perspective is quite emphatic. One executive surveyed wrote, "We focus on business graduates rather than computer science graduates. All senior MIS managers have MBAs, and I have a DBA [doctorate of business administration] as well.

"I look for communications skills even at the college trainee level. We've sent four MIS managers through executive MBA programs and have sent others to executive writing and interpersonal relations courses."

Another MIS director commented, "The emphasis is on communication skills, project management, and business understanding rather than just technical competence."

New Marketing Orientation

Marketing is an increasingly valuable business skill for those in IS to acquire. One IS executive who believes in a marketing orientation is Tenholder's boss, William Skowyra, senior vice president of Blue Cross and Blue Shield of Missouri (see "The MIS Marketeer"). Overseeing an IS budget of $22 million and a staff of 300 for the health care insurer, Skowyra has turned much of his resources to marketing policies. "We recognized that the customer was always right but that the end user wasn't always right," he explains. "We recognized who the real customer was."

The designers of information services will be brought into closer contact with customer needs as competitive pressures shift the nation toward a service economy. As those same customers become more computer savvy, telling them that something can't be done will become more difficult. Technical skills must be informed by an awareness of customers and markets, and IS professionals must not ignore the marketplace.

In this changing environment, who will acclimate the IS staff to this brave new world of business competition? As the old career track—from programmer to analyst to project leader—disappears, the responsibility of acquiring the necessary business skills and attitudes falls on the shoulders of the IS practitioner.

An overwhelming majority of respondents—87%—agreed that individuals are taking greater responsibility for their own careers. Interestingly, a large number of respondents—35 out of 46—also indicated that their companies support some form of career planning, a complementary, not contradictory, phenomenon. Companies no longer guide the individual at each step, but they do provide the map for planning the trip.

Harris's McCauley sums up: "People have to become much more responsible for their own careers. They have to act like individual entrepreneurs, like doctors and lawyers. We can provide the support in the form of training and education, but they have to chart the directions. I tell people we can still offer lifetime employment, but we can't guarantee lifetime positions."

The dynamics that drive businesses are having an increasing effect upon IS and its practitioners. As the competitive pressures and technological developments that are reshaping businesses also reshape the IS profession, adaptability, versatility, and self-reliance will become the IS professional's greatest assets. ■

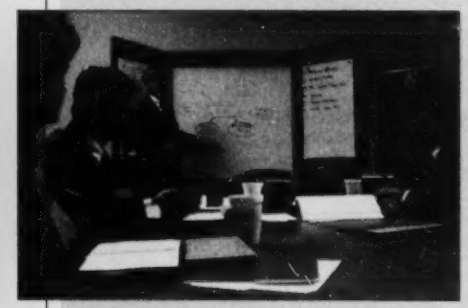
A frequent contributor to DATAMATION, Curt Hartog is an assistant director of the Center for the Study of Data Processing (CSDP) at Washington University in St. Louis. Robert A. Rouse is the associate director of the CSDP and the director of the newly formed Center for Intelligent Computer Systems, also at Washington University.

The MIS Marketeer

William Skowyra's management orientation at Blue Cross and Blue Shield of Missouri in St. Louis exemplifies the marriage of information technology and business.

As senior vice president of IS, he oversees a budget of $22 million and a staff of 300. He is credited with transforming a traditionally overloaded, fragmented dp shop into an aggressive marketing organization that uses technology as a vehicle for selling services to other Blue Cross and Blue Shield plans, as well as to national accounts.

In the early '80s when he was running the data center, Skowyra recognized the importance of servicing customer needs. Striving to draw in new business for the insurance conglomerate through improved customer service, he implemented a program that would consolidate claims processing on large, geographically dispersed accounts by using a single control plan. The plan enabled local Blue Cross and Blue Shield organizations to continue to provide the primary customer contact.



Blue Cross and Blue Shield's William Skowyra.

Eliminated were the customary delays that had occurred when information—in the form of data cards—was exchanged among participating plans. Also eliminated were business procedures that had become redundant, inefficient, or likely to alienate customers. Skowyra's innovations helped the company to retain a major account, while at the same time quickly elevating him to the top spot in the information systems realm.

Skowyra succeeded largely because he insisted that IS was a *business* function like any other department. As he puts it, "We didn't learn to say no. We learned to say yes." To turn his organization around, he began at the top, sending his four directors and, later, their functional managers to seminars on the health care industry. He also encouraged them to find customers and sell them policies.

Today, Skowyra's directors, like vp Ed Tenholder, spend as much as 40% of their time marketing Blue Cross and Blue Shield products and services. Skowyra practices what he preaches. By his own estimate, he spends 90% of his time marketing.

At a time when Blue Cross and Blue Shield is cutting staff, Skowyra's organization is growing. Tenholder will soon be adding marketing professionals to provide customer service and support. This blurring of organizational functions and the melding of professional objectives is eloquent testimony to the expanding potential of IS.

Sizing Up Your Staff

The Center for the Study of Data Processing at Washington University conducted a national survey of 50 IS execs on how they and their staffs are adapting to the changing IS environment. The following is a breakdown of the responses from the Fortune 1000 vps, directors, and managers.

Career Guidance

87% report that their staffs are assuming increased responsibility for their own careers.

76% report that their companies are providing career planning for individuals.

61% report that their IS professionals are developing an entrepreneurial attitude.

78% report that IS professionals are building personal/professional support networks.

Skills

12% report that their staffs' skills are outdated.

70% report that their staffs' skills are up to date.

83% plan to retrain staff members.

80% plan to upgrade the basic business skills of their staffs.

52% plan to develop advanced business skills in their staffs.

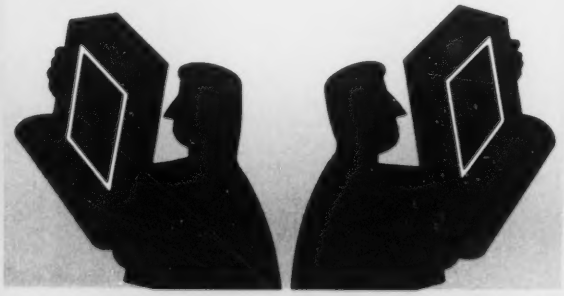
83% report that their companies support development of business perspectives and skills.

50% report that their companies reward development of business perspectives and skills.

Decentralization

18% report IS staff work outside the IS shop to support departmental computing.

64% of total computing dollars are spent on direct IS budget items.



Jobs at Risk

11% report frozen IS staff salaries.

36% report layoffs or early retirement of IS employees.

30% report IS jobs have been eliminated or left vacant.